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ORIGINAL ARTICLES.

A Study of Bubonic Fever.

BY W. C. CHANCELLOR, M.D., UNITED STATES CONSUL AT HARVE, FRANCE.

Maryland Medical Journal.

Under the control of sanitary science, the black death or plague which almost depopulated London in the fourteenth and seventeenth centuries and Marseilles in the nineteenth century has changed both in its character and its name. It is no longer the black death nor even the plague, but "bubonic fever." If the memories of that medieval scourge of mankind are growing faint in Europe, the peoples of Asia have during the past half century been repeatedly subjected to its horrors.

In the Spring of 1830 people were dying of it, in the city of Bagdad alone, at the rate of two thousand per day, and in one day, "the 23d of April, no fewer than thirty thousand dead bodies were counted of persons who had perished within the town." It appeared on the banks of the Euphrates in 1867 and in 1873, in Persian Kurdistan in 1871, in Bagdad in 1877 and in Hong Kong a few years ago; not to speak of its more terrible devastation within the Celestial Empire; and since the breakout of the pestilence in Bombay, about four months ago, there have been over six thousand cases and not less than five thousand deaths.

The medical history of the plague or bubonic fever in the Western Capital of India will form a memorable episode in the struggle of science with disease. One lesson apparently taught by the outbreak is that the best chance of staying its progress is to strictly segregate the cases; yet the rules drawn up for this purpose could not be enforced owing to the imperious demands of caste. Another lesson is that pestilence is fostered by a condition of filth and that poverty and famine are redoubtable agents for the extension of the epidemic, while the principal sufferers from it are individuals placed in a condition of morbid receptivity by hunger and entire lack of hygiene.

An investigation has been started for the purpose of ascertaining how the plague reached Bombay, but as is customary on such occasions, the result is a long time in forthcoming. As far back as last September the death rate had begun to increase considerably in the quarters of the city, near the docks and port, where a few days before a ship had arrived from China loaded with goods that were no doubt infected. The first cases were represented to be typho-malarial fever, but as the deaths became more numerous, the board of health announced that it was plague they were dealing with. For a whole month, therefore, the epidemic had been spreading without hindrance and the entire city was already contaminated, when, on October 2, the necessary measures were first taken to prevent its diffusion. Then a panic ensued and the population left Bombay in masses, carrying the germs in every direction; and it now seems probable that the entire province of Bombay will be contaminated, as well as adjacent districts. Without awaiting the result of the investigation as to how the disease reached Bombay, it can be asserted that it developed in British India for two reasons: First, because too much leniency was shown in admitting ships coming from the South of China, which was known to be contaminated; second, because, by not recognizing the disease or

concealing its nature, an opportunity was given it to take a firm hold. The plague was known to exist in China and this fact ought to have awakened attention.

It has been a common observation of modern medicine that a great number of epidemic diseases are parasitic—due to the invasion of the body by a minute organism, or bacillus, and that all of them are probably of that nature. The bacillus of plague has been diligently sought by many observers, especially by Japanese physicians during the Chinese epidemic (when one hundred and fifty thousand died in Canton) and a bacillus has been discovered and cultivated. Whether this bacillus be the veritable cause of the malady, or only an incident of blood decomposition, has not yet been certainly established; but there seems to be no question that the effective causes of plague, the condition necessary to the multiplication of its bacillus and its virulence and infective activity, are filth, putrefaction and over-crowding.

Fortunately for us the bacillus which answers to the disease has little power of resistance. All antiseptics easily get the the better of it. At a temperature of 140° F., it dies, but it retains vitality in the soil, and this cannot be disinfected; hence in Eastern countries epidemics, favored by a dense population and unsanitary conditions, are perpetuated. The best preventive of plague, as of all other zymotic disease, is generally considered to be cleanliness. If the disease should succeed in crossing the sanitary barriers interposed and enter Europe or America, it cannot spread and rage as in Asia, and there should be no alarm.

Undoubtedly plague is less serious than cholera. With cholera we never know where we are. Cholera bacilli may get into the water at the mouth of a river, and travel up to its source and thus contaminate a whole country, as was the case in 1866 when the disease broke out in New Orleans and successively attacked every town on the Mississippi river as high up as St. Louis. It is an inexplicable fact that the cholera never travels down stream.

But the plague, like the smallpox, is given by contact alone, and thus it can be isolated and "stamped out." We cannot only isolate completely the stricken, but we can burn, or disinfect the infected places and the disease is soon ended. It does not seem probable that the Bombay pestilence is the plague that swept away one hundred thousand victims in London in the fourteenth century, that slew half the inhabitants of Marseilles in 1720, and proved fatal to 90 per cent. of the persons it attacked in Vitlanka, but a bubonic fever, swift and terrible, yet amenable to the resources of modern science.

In medieval Europe the pestilence selected its victims from the indigent and ill-fed classes that it got the name of the "poor's plague." It still retains this character in Asia and the Bombay death lists of the past few months place the results in a striking light. The outbreak first occurred in one of the most squalid quarters of the town and with certain exceptions it has spread to the better-to-do-classes.

Englishmen, whether through a transmitted immunity which they have shared with the nations of Europe since 1841, or from a higher standard of living, or from whatever cause, have enjoyed freedom from attack so remarkable as to render isolated cases among them quite phenomenal. While the mortality from all causes ran up to seventy-five per thousand in the third week of November, 1896, the general death rate among the well fed natives was under thirty, and among the amply fed European community only eighteen per thousand.

These returns give a wholly different aspect to the plague from that which it bore in the European cities of the middle ages and bears at this day to the people of Asia. It is no longer a "mysterious visitation of Providence" beyond the control of man, but an indirect product of filth and bad food, commencing among the classes least able to resist the virus and scarcely touching those whose higher standard of life and of generous diet enable them to defy it. The correlation of the plague with poverty opens up serious possibilities during the present

scarcity in India. For several months the pestilence was kept pretty well under in Bombay, but it has now spread to other cities, the outbreak being traced to infection brought from Bombay and the spread to a deficiency of proper nourishment.

The wholesale migration of the inhabitants of Bombay into other towns and countries is a serious aspect of the case. Reuter's Bombay correspondent has telegraphed that "half the population has fled the city," which, if correct, means that three hundred and fifty thousand people, most of them poverty stricken, are already on the drift from the plague center in Western India. The ordinary incubation period of the plague being from five to ten days, this period would, of course, afford ample time for traveling to a considerable distance from the place where the malady had been contracted, and it is impossible to ignore the dangers which may arise from an unchecked exodus of infected people.

These dangers, are not so great as would at first sight appear, because the activity of the plague poison seems to be greatly dependent upon the environment of the population into which it is introduced, and a camp of fugitives would require time before the inhabitants could surround themselves with anything at all resembling the accumulation of filth which exists in the native quarters of all great Indian cities, and which are retained there by the resistance, active or passive, of certain classes of the population to anything in the shape of sanitary improvement.

A deep and special interest attaches to the efforts being made to keep the plague out of Calcutta, where smallpox is now raging in a most violent form. The situation and sanitary conditions of Calcutta at this time would render the pestilence in that city more formidable than in either Karachi or Bombay. The Calcutta population is crowded together in masses of whose density we can scarcely form an idea. While the population of London amounts to 35,905 persons to the square mile, it is said that there is scarcely one of the eighteen Calcutta wards, outside of the European quarter and the garden suburbs, in which the density is under 50,000 per square mile; while in one ward human beings are huddled together with a pressure that gives a rate of 144,000 to the square mile.

The over-crowding of individual houses, as described in the report of the Medical Committee of Inspection, is even more terrible. A building which could at the utmost accommodate 50 persons properly is made to hold 250. In smaller huts, without windows, the inmates are jammed together until the breathing space is reduced to one-thirteenth of the number of cubic feet necessary for health, even when aided with appliances for ventilation.

The quarantine percautions which are at this time being taken in France, Italy, Belgium, Austria and Russia are apparently inevitable in the present state of knowledge. Yet we must not forget that accurately recorded experience renders it somewhat doubtful in the minds of many whether the contagion is carried by sea-going ships. The plague killed 9,000 persons in Alexandria in 1835; but the exportation of cotton from the Egyptian government warehouses, hotbeds of the infection, went on, in the absence of precaution of any kind, without communicating the disease at the ports to which the bales were consigned. Eight ships were ascertained to have cases of plague on board, but we are told that "no case of infection occurred among quarantine officers or other persons at the ports of debarkation."

While, therefore, the Continental governments will naturally resort to defensive quarantine measures, which they are so ready to adopt against contagion from the East, there is no necessity to exaggerate the danger.

S. A. JOHNSON, who was convicted at Alma of receiving stolen bodies at the Kansas Medical College, was sentenced last Thursday. His sentence was $500 fine. Mr. Lowe was given a $500 fine and six months in jail.

The Serum Diagnosis of Typhoid Fever.

BY JOHN ELIOT WOODBRIDGE, M.D., CLEVELAND, O.

Read before the Staff of the German Hospital, January 11, 1897.—Reprinted from the Cleveland Medical Gazette.

Mr. President, Gentlemen: It is neither just to myself nor courteous to you, that my first appearance amongst you should be for the purpose of presenting a paper, but since at your last meeting you honored me by electing me, by an unanimous vote, a member of the staff of this hospital, I may waive the former, and trust that, in consideration of the importance of my subject, you will condone the latter.

If there is in all the limitless field of study that is open to physicians, one subject, the importance of which entitles it to precedence over all other topics of discussion and investigation, it is the exact and positive diagnosis of diseases in their earlier stages—when, if ever, they are amenable to treatment. Nor is there any department of medicine which shows greater need of, or more urgent demand for improved methods.

If these statements are true as general propositions, they are especially so when applied to typhoid fever, particularly in the city of Cleveland at the present time, when the bacillus typhosus is known to be present in our water supply, when every public hydrant yields gas producing bacteria; when the next drink of water or milk that is taken may implant in our system the germ of a disease, which, if not promptly recognized and cured, may end in death. But typhoid fever is not generally promptly recognized. It is rare indeed that a positive diagnosis is made until the evidences of anatomical lesion are present, and then it may be too late to save the patient's life. There is probably no disease in which, as a rule, an exact diagnosis is so long deferred. There is probably no disease in which errors of diagnosis so frequently occur, and there is certainly no disease in which delays in, or errors of, diagnosis have entailed more disastrous consequences. Therefore if the serum diagnosis of typhoid fever proves what it now seems to be—a means of positively identifying the disease in its early stages—its importance and value cannot be over estimated.

The consensus of opinion, both in Europe and America, seems to be, that while the absence of the characteristic reaction of a given specimen of blood upon the Koch-Eberth bacillus is not conclusive evidence that typhoid fever may not be present, its presence is indicative of true enteric fever.

On the 17th of last September, Professor Wyatt Johnson of Montreal, read a paper on the "Serum Diagnosis of Typhoid Fever" before the American Public Health Association, in which he gave his simplification of Widal's method and manifested his faith in it by applying the test in public. Dr. Johnston's explanations were so clear and forcible, and he presented such conclusive evidence of the value of serum diagnosis, that it might well be designated "the Johnston method," for although Pfeiffer, of Germany, may have first discovered the principle, and Widal, of France, may have first applied it to the diagnosis of typhoid fever, to Johnston, of Montreal, belongs the honor of having first taught in America its practical application—convinced us of its merit, and, as bacteriologist of the Board of Health of the Province of Quebec, of having given it its first official recognition. The Board of Health of the city of New York is entitled to the credit of having been the first sanitary body in the United States to adopt it, and, like the Board of Health of Quebec, that board now makes serum diagnosis of typhoid fever for the physicians of the city, free of charge.

The success of the test depends upon the power of the blood serum to paralyze and agglutinate in masses the bacilli of the disease. In the present state of our knowledge, it must be admitted that much of our reasoning is hypothetical, but as some specimens of serum from typical typhoid fever patients immobilize the Eberth bacillus without causing any agglutination, and as some others not typhoid cause agglutination without loss of motion, it would seem that more than one substance enters into the re-

action, and that for our purpose the principle that causes paralysis of motion is the more important.

These principles are no doubt, the antitoxins of the disease, and their presence in the blood accounts for the difficulty of finding Eberth's bacillus in that fluid.

The technique of serum diagnosis is simple, the annoyance to the patient far less than that of an ordinary physicial examination, and the result is an exact and positive diagnosis early enough to give the physician some chance of curing the disease. The method as practiced by Dr. Johnston is indeed so simple that there is danger of its being brought into disrepute by unskilled or careless observers.

He proceeds as follows: The tip of the finger or the lobe of the ear should be thoroughly cleansed and dried, picked with a sterilized needle, and the exuding drop of blood caught on a sterilized bit of glass or paper and dried at the temperature of the room. It is then ready to be examined or mailed. For the examination the only essentials are a moderately good microscopic outfit and a pure culture of Eberth's bacilli or proper attenuation. On this point Dr. Johnston in a communication received yesterday (January 10, 1897) says, "In my work in serum diagnosis done jointly with Dr. D. D. MacTaggart, we recently met a series of peculiar partial reactions in which the dried blood solution from many perfectly healthy persons gave a very decided agglutination. The blood serum from the same persons was found much less liable to give these pseudo-reactions. This made it less easy to exclude other febrile diseases, and, with this test accuracy in the negative diagnosis is of great practical importance, others who may meet with similiar pseudo-reactions will be interested in learning how they may be avoided.

"These pseudo-reactions were not encountered in our earlier cases when attenuated cultures were used. They began to appear when we employed short-time virulent cultures and disappeared again on resuming the use of attenuated ones. Active, virulent cultures intensified by daily transplantation and growth at body temperature were therefore not suitable for the dried blood test. Where only active cultures are employed, we do not think that the dried blood method can be considered to have had a fair test.

"The explanation of this difference appears to be that the serum contains relatively less of the substances causing agglutination than solution of the entire blood. Hence solutions of the entire blood react more intensely to the test than solutions of the blood serum alone. This was the reverse of what we had anticipated.

"It is found that old laboratory stock cultures kept at room temperature and transplanted at intervals of about one month give us the best results. Bouillon test cultures grown from this stock for twelve to twenty-four hours at body temperature are found to react decisively with solutions of typhoid blood or typhoid serum, the reaction being as a rule well marked within fifteen minutes. With non-typhoid blood or serum solutions, the same test cultures give no reaction even after twenty-four or forty-eight hours contact. Intra-peritoneal injections of 1 c. c. of such living bouillon cultures produces in guinea pigs a marked blood reaction and immunity without much disturbance of health. We find that the best results in cases of dried blood are obtained with cultures where the motion as seen under the microscope is of a rapid, gliding character, but free from darting movements. If the movement is sluggish, owing to too great attenuation of the culture, a few daily transplantations at body temperature will make it more active. Exact estimation of the degree of dilution has been found necessary for ordinary diagnostic work when attenuated cultures are used. A very faint tint in the drop examined usually indicates sufficient strength. The solution should not be thick or viscid."

A little sterile water dropped on the dried blood and allowed to remain two or three minutes will dissolve all that is necessary of the antitoxin. This should be thoroughly mixed with a drop of bouillon or dissolved gelatine culture on a cover-glass, and the

whole suspended as a hanging drop in a cell slide. In ten or fifteen minutes all motion of the bacilli from place to place will have ceased, and the bacilli will have become agglutinated in small islets or masses.

In order to exclude as far as possible all sources of error, control observations should be made. The bacilli should be examined to see that they are motile. They should also be examined in connection with blood that is known to be typhoid and with healthy blood, and in negative cases the blood itself should be examined to see that it contains no motile bacteria. If the result is negative, future examinations should always be made as long as a doubt exists as to the nature of the disease.

I have also received a letter from Dr. Lambert, bacteriologist of the Board of Health of New York City, which says, "In making Johnston's typhoid test we find so many non-typhoids giving a decided clumping and some motility remaining, that we think now it is safe to say 'typhoid reaction' only in specimens where the inhibition of motility is immediate and nearly, if not quite complete, and no actively motile bacilli remain. The clumping may be immediate, or may come on slowly and may be more or less complete. If in five or ten minutes this is not so, it is not safe to say 'typhoid reaction.' . . . The amount of blood mixed with the culture on the cover glass makes sometimes a great difference in the reaction."

Professor Johnston says: "The one indispensible factor is perfect purity of culture." The one which he uses is said to have come originally from the Berlin Hygienic Institute. The doctor very kindly gave me a supply which I shall be pleased to share with any of you, or to give you any aid in my power in making diagnosis.

The mind of man is incapable of estimating the value the service which this discovery may render to the medical profession and to humanity. If its future performances are at all commensurate with its present promise, it will become the recognized method of diagnosticating, not typhoid fever only, but all the specific infections, and by substituting positive knowledge of the nature of these diseases for guess work it will simplify our therapeutics and revolutionize the practice of medicine.

Finally, since the presence in the blood of the antitoxin of typhoid fever is apodeictic evidence of the presence of that disease, it will enable me to prove beyond any peradventure the truth of the declarations which I have been so bitterly criticized for making, that "typhoid fever can be aborted."

The Pathogenic Action of the Micro-Organisms of Friedlander and Frænkel.

Fleroff points that before the discovery of the Talamon-Frænkel pneumococcus, Friedlander described a bacillus which for a long time was considered to be the agent of pneumonia. More recently this role has been given exclusively to the pneumococcus of Frænkel, although the latter is found as a saprophyte in the mouth, and though in many cases of pneumonia it has been impossible to prove its presence. This investigator has made experiments with a view to determining the real pathogenic importance of these two microbes, and has found that while either of them may cause pneumonia, septicemia, or extra-pulmonary trouble, the pneumococcus seems to be more toxic, but that its presence in the expectoration is not pathognomic. He concludes that neither of the two microbes ought to be considered the specific agent of the pneumonia.

DR H. M. OCHILTREE, of Haddam, Kas., lectured on "Hypnotism" before the students of the Kansas Medical College last week.

DR. W. H. PORTER, of New York City, is on the program of the Kansas Medical Society for a paper at the next meeting in May.

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Topeka, Kansas, Saturday, March 27, 1897.

THE change in the plan of the State Society will without doubt increase the attendance and the interest. At the next meeting, instead of having regular section meetings, the program will be so arranged that the papers will be distributed over the entire time. In this way all in attendance will be able to hear papers in all of the sections. The secretaries of each section are preparing the programs for their section, but after they are sent in the committee will re-arrange the program so that the appearance of section work will not be evident.

GOV. LEEDY has appointed two members of the Board of Health. They are Dr. Trivett, of Eskridge, and Dr. J. W. Jenney, of Salina. Dr. Trivett is a regular, and graduate of the St. Louis College of Physicians and Surgeons. Dr. Jenney is a homeopath, and a graduate of the Homeopathic College of Cleveland, Ohio.

UNDER the anatomical law passed by the last Legislature all the colleges in Kansas will be furnished with a liberal supply of dissecting material. Provision is made whereby the superintendents of State asylums and penitentiaries must notify colleges when an unclaimed body is on hand.

THE East Kansas Medical Society will meet in Kansas City, Kas., on the third Tuesday in April. An interesting program is assured.

MISCELLANEOUS.

Experimental Study of Cerebral Compression.

Journal of the American Medical Association.

De Gætano has been making an extensive series of experiments on animals in which he introduced fragments of bone, laminaria or sponge into the cerebral substance, and studied the resulting processes. The tolerance was less as the animal stood higher in the zoologic scale. The degenerative processes consist in a varicose appearance of the cylinder axes and an extensive diffusion of myelin, with vascular dilation in the zone of compression. Severe compression produces marked optic disturbances, first venous stasis in the optic papilla, more intense in the eye on the opposite side, followed by amaurosis from edlmatous optic neurosis, whether the pressure is in the occiptal or parietal lobe. The effect of slight compression on the circulation is to decrease the pressure of blood; with a little stronger compression the blood pressure returns to normal, or is greater than normal, increasing with the amount of compression, to be-

come very high with violent compression. The variations in the pressure are identical, no matter in what part of the brain the foreign substance has been inserted. They are also the same whether the animal has been deprived of its cerebro-spinal fluid or not. But he found that the sanguine pressure increased in all cases, independently of the degree of compression, when double vagotomy had previously been performed. The sanguine pressure is deceased in all cases by irritating the nervous fibers of the dura mater or cerebral convolutions with the electric current, the proportion depending upon the strength of the current. The effect of irritation of the dura mater and convolutions is therefore identical with that produced by slight compression of the cerebral substance. He ascribes this effect to the fact that slight compression irritates the dura mater and cerebral convolutions, which irritates in turn the vagus and thus induce the decreased pressure of the blood. He explains the increased pressure in cases of strong compression by the irritation of the vasomotor bulbar center. If the external jugular is ligated separately and then the entire internal jugular the carotid pressure remains unaltered. The blood pressure in the jugulars of dogs is not affected by any amount of cerebral compression. The respiration becomes superficial and less frequent in proportion to the amount of the compression, whether the cerebro-spinal fluid has been removed or not, but after double vagotomy, the tracings of the respiration cease to show these modifications, and instead it becomes very irregular. Irritating the dura mater or the cerebral convolutions increases the superficiality and rarity of the respirations, which becomes still more marked when the jugulars are ligated and cerebral venous stasis is thus induced. These phenomena appear suddenly the moment the ligature is completed, but pass away in time and the respiration returns to its normal frequency and grows deeper. The temperature falls with slight cerebral compression less than the tenth of a degree, a tenth with moderate and over a tenth with strong compression.

The report published in the *Gaz. d. Osp. e d. Clin.* January 10, concludes with the deductions that the effect of compression of the cerebral substance is due to the direct irritating action of the compressing body on the dura mater and the cerebrum in the first place, and to the indirect action of the increased endocranial pressure of the cerebro-spinal fluid in the second place. The therapeutic conclusion emphasizes the importance of removing the foreign body with the least possible delay.

Congenital Sarcomatosis of the Skin.

Journal of the American Medical Association.

In detailing a case of congenital sarcomatosis of the skin Neuhaus points out that of all the new formations of childhood sarcoma is the most common, and of congenital sarcomata the most common are found in the kidneys. Metastasis of internal sarcomata to the skin is not rare, but primary sarcoma of the skin is extremely rare. The case in question occurred in a child two months old, of healthy parents free from syphilis and tuberculosis. The infant appeared normal at birth, but when bathed on the fifth day by the mother the left leg was noticed to be more curved and thicker than the right. In the following days the extremity increased in size, especially upon its external aspect. At the age of five weeks an incision was made into the leg and a cohesive, gelatinous mass as large as a hen's egg was removed. Free bleeding ensued, but the bones were apparently healthy and not connected with the growth. At about this time the mother noticed on the external aspect of the right ankle a bluish spot, which on palpation proved to be a nodule as large as a pea. Gradually similar nodules appeared upon the trunk and upon other portions of the body, increasing progressively in size and some undergoing ulceration upon the surface. The child was large and apparently well nourished. The nodules varied in size from a lentil to a small apple, were of elastic consistence and presented pseudo-fluctuation. They were sharply cir-

cumscribed and movable upon the subjacent tissues. They were variously situated in the skin and the subcutaneous connective tissue. The lymphatic glands were slightly enlarged, especially those of the groins and of the neck. There was no evidence of involvment of any internal viscus. Examination of a removed nodule disclosed the histologic structure of a round-cell sarcoma. No abnormality found in the constitution of the blood. The condition of the child gradually deteriorated, until death took place in ten days. Post mortem examination disclosed widespread metastasis, the evidence pointing to the cutaneous covering of the left leg as the seat of the original growth, which must further, it concluded, have been of congenital origin.

The Gensichen Diphtheria Antotoxin Case.

Therap. Woch.

The meeting of the Berlin Medical Association, December 16, was enlivened by a discussion of this peculiar case. Dr. Gensichen of Vietz was taken with light diphtheria on the left side in November, 1895, and injected himself with the curative dose of serum No. 2 in his left flank. He stated that the local process healed without irritation, showing that there had been no infection from a septic syringe, or anything of the kind. A week later urticaria appeared and lasted about a week, and in three weeks small pimples made their appearance, developing slowly into large abcesses, which soon discharged a bloody pus, recalling the glanders of a horse. These abscesses were limited to the region in which the injection had been made, for six months, when they spread to the other part of the body for the next half year, and he still has some small ones. Virchow made a bacteriologic investigation with the results that only staphylococci were discovered, and no glanders microbes as might have been expected. The form of the abscesses he stated was peculiar; they passed through the cutis into the subcutaneous tissues, with which they communicated by a round, sharply cut hole. Anatomists met with similiar experiences, he added, from post mortem infection, with eruptions like this and copious discharges. Heubner considered that the case was merely an attack of furunculosis, which had happened to be preceded by an injection of antitoxin. Baginsky also exonerated the serum, describing the case of a boy he had recently treated for the same affection, following a traumatism, but in his case there was no question of a preceding injection. Virchow, however, emphasized the fact that the first abscesses had occurred in the immediate vicinity of the injection, and not till afterward did they spread over the body. He considers, therefore, that the injection was directly responsible for them, but added that this did not mean the antitoxin The injection and the serum injected are two different things. Dr. Gensichen sent a description of his case to the *Berl. klin. Woch.*, which published it with some editorial comment. A garbled account was reprinted in the daily papers, which induced Dr. Gensichen to write a correct account for his local paper. Ewald deprecated this publicity and urged that such things should be kept within medical circles and not made into sensations for the daily press. He considered the case a staphylococcus infection, as frequently happens when the injection is not made with absolute aseptic precautions.

Every-Day Doctors and Great Men's Doctors.

T. B. S., in Philadelphia Polyclinic.

Le Progres' Medical amusingly comments upon a popular medical "conference," remarkable for its incoherence, by the famous Dr. Schweininger, Bismark's physician. It observes that the characteristic physiognomy of the private and proprietary conservator of great men's healths is something *sui generis* and well known.

Dr. Schweininger is something more: Witness the following discourse to the astonished Berliners: After reviewing the

different sects in medicine, he finds none to prefer to the exclusion of the rest and none to be wholly condemned, but esteems them all of equal value. If consulted in regard to any medicament, he replies, "make haste; use it while it is still effecting cures." Two classes he believes to be dangerous—specialists and manufacturers of proprietary medicines. "In our day," he tells us, "the doctor has become anatomist, microscopist, physicist, physiologist, surgeon, bacteriologist, electrician, Roentgen-rayist; but physician no longer. Where is the leisure to be, absorbed as he is in his specialty." Our spectacled German oracles does not conceal his lack of sympathy for the trade of the proprietary pharmacists, believing that the physician who avails himself of their services in their chief abettor in the accomplishment of their purpose (which is to make money) and dishonors his craft. Neither has he a good word for new discoveries in medicine. "There is not one," he declares. "which has not been discovered before, abandoned, forgotten, rediscovered, and so *da capo*." If you ask him what you shall eat and drink, he will tell you "whatever you please, provided you have a good stomach." He unfortunately omits informing us how the latter is to be acquired. Occasionally he is even rational; for instance, when he regards the corset in women and the hat in men as two prolific causes of ill health. Women waste their breath in affirming that they do not lace, for the weight of the corset is even worse than the pressure. "I cannot rid myself of the idea," he remarks, "that the corset is the invention of a hunchback." Loss of the hair he attributes to the wearing of a hat, and most curiously, baldness to the habit of cutting the hair. The learned doctor would prefer the fashion of antiquity, when the hair reached to the waist, to the aspect of the front row during a ballet.

As to vaccination, he sees no special harm in the practice, provided its employment be optional with the individual, but to make it compulsory degrades it, in his opinion, to a useless barbarism. (It is to be observed that the discourse was delivered in Germany, where vaccination is obligatory.) Although he recognizes the hygienic advantages of the bicycle, he would still have us abstain from the use of the wheel. The aged companion of the ever youthful Bismark is clearly out of place in this *fin de siecle*.

The Diagnosis and Treatment of Lumbago.

Medical Review.

In the December number of the *Bristol Medico-Chirurgical Journal*, Mr. F. H. Edgeworth describes three classes of cases—those of rheumatic myalgia, rheumatic, neuritis, and renal pain associated with hyperacidity of the urine says, the *N. Y. Medical Journal*. If the distinctive diagnosis is made, he says, it will be found that the treatment is thereby much simplified and restoration to health more rapidly brought about.

The patients of the third class complain of a dull aching pain in the lumbar region on both sides. The pain, which is constant and not made worse by movement, is not confined to the lumbar region; it extends forward around the trunk into the groins, and occasionally into the testes. The patient generally complains of scalding during micturition, and the urine, which is quite clear on first being passed, is very acid in reaction and on cooling deposits abundant brick red urates. The muscles are not tender on palpation or percussion, but there is often a zone of hyperesthesia of the skin, best tested by prodding with the head of a pin, extending round from the lumbar region to the lower part of the trunk for a space of about three inches above Poupart's ligament and the pubes. The pain, says the author, is evidently associated with and probably dependent upon a hyperacidity of the urine; just as scalding occurs during micturition from irritation of the urethra, so the bilateral lumbar and abdominal pain results from irritation of the renal pelves; and the hyperesthesia of the skin is a "referred" phenomenon exactly like that which happens in cases of renal calculus or gravel.

The reflex retraction of the testis sometimes seen in renal calculus is not present in these cases, probably because the irritation is not sufficiently great; and the phenomena are always bilateral, though they may be more marked on one side than on the other. Treatment is simple and most successful, consisting in the administration of large doses of some indirect antacid, such as potassium citrate.

Lumbago due to rheumatic myalgia is characterized by pain in the lumbar region only, generally on both sides, though occasionally on one side only. It very rarely extends to the muscles of the anterior abdominal wall. When the patient is at rest or lying down there is no pain, which occurs only during movement. An easy way of satisfying one's self as to this, says Mr. Edgeworth, is to ask the patient to stoop down and touch his toes—the action is performed carefully and stiffly, with evident discomfort, often much greater while the patient is resuming the upright position than in stooping. The muscles are not in the least tender on palpation, and there is no hyperesthesia of the skin either over the affected muscles or on the front wall of the abdomen. The urine is normal, and there is no scalding during micturition.

Lumbago from rheumatic neuritis resembles rheumatic myalgia in many of its features, but differs in three particulars. The pain, although rendered worse by movement, persists in a lesser degree during rest. Further, there is some tenderness on palpation, particularly over the spots where the nerves run through fasciæ. And lastly, the pain is often felt along the course of the sciatic nerve or nerves as well as in the lumbar region. If a patient is seen early, there is rarely any evidence of impairment in the conductivity of the nerves.

The treatment of lumbago due to rheumatic myalgia or neuritis, says the author, consists in the administration of salicylates until toxic effects are produced, and in the use of counter-irritation, the best application for which is capsicum. The ordinary B. P. tincture is diluted with water in the proportion of one to five and applied on lint and covered with oiled silk to prevent evaporation. Mr. Edgeworth says that the effects of this treatment are extraordinary and quite inexplicable; it enables a patient to move freely and painlessly fifteen minutes after its administration, although before he could not make the least movement by reason of the pain. The result, continues the author, is, however, somewhat transitory; it wears off in an hour or so, but it can be reinduced by a fresh application, which may be done usually for half an hour four or five times a day.

Mr. Edgeworth has found that the salicylates act more speedily in cases of rheumatic neuritis than in those of rheumatic myalgia; in the former, he says, the pain usually ceases as soon as salicylism is produced while this has to be kept up for some little time in cases before its cessation.

Mr. Edgeworth thinks that these cases of rheumatic neuritis and myalgia have some etiological relationship with ordinary rheumatic arthritis. If, for instance, he says, a large number of cases of lumbago are taken, and those in which the pain is renal in origin are first subtracted, in a large percentage of the remainder it will be found that the patients have suffered at one time or another from "major" rheumatic attacks. The relationship, then, he continues, of these "minor" rheumatic affections is perhaps a good deal nearer that of ordinary rheumatism than is generally supposed, and affords an explanation of the good effects produced by the administration of salicylates.

Though lumbago is from many points of view but a trivial affection, it produces so much discomfort that any increase in our power of alleviating it deserves some consideration; end the distinctive diagnosis and treatment on the lines here marked out will, he thinks, be found satisfactory in practice.

ERROR IN TOO MUCH EVIDENCE.—Upon the trial of an indictment that charged that the defeudant, knowingly and unlawfully, and without license, prescribed medicine for a certain person named, the supreme court

of New Jersey holds, in *Meyer v. State*, November 20, 1896, that evidence that he had prescribed for other persons was illegal, its only effect being to show that he habitually did those things for the doing of which in a particular instance he had been indicted. Because the State, in this case, after proving the circumstances upon which it relied to establish the fact that the defendant had prescribed for the person alleged, proceeded to prove a number of instances in which he had prescribed for sundry other people, not mentioned in the indictment, the court reverses the conviction had.

Calcium Carbid as a Palliative in Inoperable Uterine Cancer.

M. H. Ellis, M.D., in Medical Sentinel.

I have had recently an opportunity of using the Guinard (Dr. Aime Guinard Hospital Lariboisiere, Paris,) method of treating uterine cancer. It is hardly likely the treatment will ever be considered as a cure, indeed one should not waste time in treating in this way any cases except those which, by extension to the neighboring tissues and lymphatics, are inoperable. In procuring the calcium carbid be careful to select small fragments, as it is very difficult to break it up. This remarkable substance, the product of the union under the electric current of calcium and carbon, has the property, in contact with water, of resolving itself into acetylene gas (carburet of hydrogen) and calcic oxid. The treatment is very simple, and consists in placing a piece of the carbid weighing a dram or two in direct contact with the diseased parts. The liberation of acetylene gas commences immediately, and is retained, by filling not too closely the lower portion of the vagina with gauze. In three days the dressing is removed, the vagina washed with bichlorid solution, and the same treatment repeated. After a trial or two I enveloped the carbid with one or two thicknesses of gauze which facilitated the removal of the slacked lime.

I admit that one swallow does not make a summer, but it may at least be a very favorable omen, and the result in the one case referred to has been very striking. The offensive discharges were entirely checked, pain greatly mitigated, and the hemorrhage suppressed. It is, moreover, Dr. Guinard's opinion that the course of the disease itself is very favorably modified. The result above referred to, relating to discharge, pain and hemorrhage have been constant in his experience, and the plan is so simple and the results so gratifying that the treatment is well worth a more general trial in this very hopeless class of sufferers.

Excuse me for suggesting in closing that the experiment of generating acetylene gas for use as an illuminant is so simple as to justify anybody in trying it on a small scale. A large bottle with a little water in it, a cork pierced with a small piece of glass tubing, a few feet of rubber tubing terminating in a gas burner or a little piece of glass tubing drawn to a fine point, is all that is necessary; the gas being generated in surprising volume immediately the calcium carbid comes in contact with the water. The light is much brighter than that of ordinary illuminating gas, and of course all know that the prospect that it may supercede the latter is one of the economic problems of the day.

Massage in the Treatment of Joint Fracture.

British Medical Journal.

Pello draws attention to the value of early massage and passive movement in the case of intra-articular fractures. He believes that the usual method of treatment by prolonged fixation delays recovery, and only too often leads to ankylosis. He then reports three cases where massage was practiced at once, and where the only fixing apparatus was a starched bandage freely cut away so as to allow of the massage. The first case was that of a boy, aged 6, with intra-articular fracture of the trochlear process of the right humerus. Light massage was practiced at once, and gave much

relief to the pain; the joint was then put up in a starched bandage. The next day a good part of the bandage was cut off and 20 minutes' massage practiced. On the fifth day slight passive movement of the joint was begun. On the tenth day the bandage was discarded; at the end of the month the elbow was as free in its movements as before the fracture. The second case was that of a man, aged 38, with Colles' fracture, who was treated in a similar way and completely cured, with free movement and no deformity on the fifteenth day. The third case was that of a man, aged 40, who fractured his tibia and patella. The tibial fracture was treated in the usual way; the patellar fracture was unrecognized at the time, and after seventy days' treatment, when the patient was first seen by the author, although the tibial fracture was healed, the limb was useless, as the patellar fragments were distant two centimeters, and only worked by weak fibrous union. Massage was practiced, and after fifteen days the patient could walk with crutches, the edema had disappeared, and flexion of the knee (previously rigid) could be obtained. At the end of a month the patient could walk well with a simple stick; in two months he could walk upstairs so that no one would suspect there had been any injury to the limb.

The Phonendoscope.

Munch. Med. Woch.

Dr. Egger has made some investigations concerning the use of this instrument. Bianchi contended that with this form of stethoscope no vibrations are lost, while the sounds are not exaggerated as by the microphone; also that the phonendoscope is not only of service in mere auscultation, but the outline of the organs can be mapped out by its help. The author's experience is not so favorable as that of Bianchi. A number of extra sounds are liable to be produced which are troublesome, such as that made by the shaking of the tubes or the slightest touch of the ebonite plate or metallic case. The heart sounds are heard with greater loudness and over a more extended area than with the ordinary stethoscope, but when only one tube is used the limit is the same for the phonendoscope as for the hollow stethoscope. The increase in the sounds is useful for those who are deaf, but it is doubtful whether it is of any advantage to those with the ordinary acuteness of hearing. The hearing of the heart sounds over the apices of the lungs is undesirable. Bronchial breathing and some moist sounds are not intensified by the phonendoscope. Sometimes the metallic clang is not transmitted by this instrument. Some overtones are conducted badly or not at all by it. A difference thus exists in the transmission of certain sounds.

The author then relates his experiments to show that deep tones are intensified by the phonendoscope, whereas the higher tones are weakened or not heard at all. This explains the disappearance of metallic sounds and the higher tympanitic sounds. Rhonchi are intensified, but consonating rales are weakened. By the difference in the number of vibrations the author explains how vesicular breathing is relatively well heard, whereas bronchial breathing is heard with varying distinctness. Blanchi's contention, that the *timbre* of the sound is not altered, is incorrect. Moist sounds produced immediately beneath the chest wall may appear metallic, and the author relates experiments to explain this. Thus in auscultation the sounds may be altered in two directions:

1. The metallic clang may be lost.
2. Sounds may appear metallic which are not really so.

Murmurs may also be altered in their intensity, being sometimes intensified and sometimes weakened. The phonendoscope may be useful in differentiating murmurs in complicated valvular lesions and in distinguishing between endopericardial and pericardial sounds. The author is sceptical as to whether organs can be correctly mapped out with its assistance. The convenience with which the instrument can be used, and the fact that several people can listen at the same time, are advantages; but notwithing this the author does not think it can replace the ordinary stethoscopes.

Dangerous Spurious Imitations — So-called Coca Wines Which are a Source of Danger.

The attention of the medical profession is earnestly directed to the various dangerous decoctions masquerading as cocoa wine. These decoctions are intended as meretricious imitations of the standard French preparation, "Vin Mariani," which has been so widely endorsed by and whose merits are so well known to the medical fraternity, that it would be superfluous to enter into any lengthy enumeration here of its virtues.

Investigation discloses that these so-called coca wines are generally variable solutions of the alkaloid cocaine, in a sweetened wine of a low grade (artificial wines). Quantities of such so-called coca wine have been seized upon by various health authorities and destroyed. Any physician will realize the danger ensuing from the use of decoctions of such a character.

These spurious and dangerous preparations are having the effect of causing misapprehension and working an indirect injury to a really valuable drug, for the real usefulness and value of coca, when conscientiously prepared and properly administered, have long since been recognized by the medical profession. (There have been placed on file by Mariani & Co. more than 8,000 indorsements from leading practitioners, all coinciding as to the merits of "Vin Mariani." It can thus be claimed, "never has anything been so highly and justly praised.")

Physicians will not encounter disappointment whenever using "Vin Mariani," the standard French coca wine, as an adjuvant in treatment, as a tonic stimulant, and as a restorative in cases of profound depression, anemia and exhaustion. It has stood the test in practice during nearly thirty-five years, and during that period has been strongly endorsed as a reliable and standard preparation by many of the most honored names in the medical profession, both in this country and in Europe.

Physicians are therefore earnestly urged when prescribing coca to insist that their patients procure "Vin Mariani," thus avoiding any failure in results and insuring positively no unpleasant or dangerous after-effects.

A Deserved European Indorsement.

Health, a weekly journal of medicine and surgery, diet and sanitary science, London, Eng., says editorially: "We received from the Antikamnia Chemical Company, St. Louis, Mo., U. S. A., a brochure dealing with the action, history, indications and administration of their preparation, antikamnia. There is no medicine so useful and attended with such satisfactory results in the treatment of melancholia and vasomotor disturbances, anæmic headaches, emotional distresses, and active apprehension and distrust; and it also increases the appetite and arterial tension, and promotes digestion, as well as being particularly serviceable in relieving the persistent headache which accompanies nervousness.

"In neurasthenia, in mild hysteroid affections, in the various neuralgias, particularly ovarian, and the nervous tremor so often seen in confirmed drunkards, it is of peculiar service. In angina pectoris this drug has a beneficial action; it relieves the pain and distress in many cases, even when amyl nitrite and nitro-glycerine have failed entirely. In pseudo-angina frequently observed in hysterical women, its action is all that can be desired.

"From patients who suffer from irritable or weak heart, needing at times a pain reliever, it can be taken without untoward after effects, knowing that the heart is being fortified. It increases the elimination of urea and purifies the blood without increasing the destructive tissue metamorphosis. It lessens coma and loud delerium by contracting the capillaries of the brain. In delirium tremens, it relieves when there is great restlessness with insomnia, as well as general lowering of the nervous."